THE COMPRESSION KIT

By Gene Barker

THE COMPLETE BACKUP SYSTEM FOR THE COMMODORE 64/128 COMPUTER

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Contents

License Agreement iv
Acknowledgments vii
Introduction viii

1. Rules 1
2. Hardware 3
Recommended System 3
Compatible Hardware 3
3. Quick Start 5
4. Installation 8
Commodore 1581 Installation 8
CMD Floppy Drive Installation (1581 Mode) 9
CMD Floppy Drive Installation (Partitionable Mode) 9
CMD Hard Drive Installation 10
CMD RAMLink & PPI RAMDrive Installation 10
5. How To Use This Manual 12
6. Server & Drive Selector 13
Booting Up 13
Systems Check 13
Server 14
Options 14
Copy Type 14
Boa Type 15
Settings 15
Drive Selector 17
Setting The Source 17
Setting The Destination 19
Drive Selector Commands 19
Boot 20
Abort 20
Directory 20
DOS Command 20
7. RAMTest 21
1. Job (Screen) 21
2. Report (Screen) 21
8. Filemaster 22
Using The Filemaster 22
1. Select Job (Screen) 22
Select Drive Mode 23
2. Select Files (Screen) 23
Begin Job 23

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Toggle 24
Verify 24
Mode 24
Abort 24
Non-Listed Commands 25
3. Job (Screen) 25
9. Procopy 26
Using Procopy 26
1. Options (Screen) 26
Select Drive Mode 27
2. Job (Screen) 27
10. Archiver 29
Archiver Extensions 29
Using The Archiver 30
1. Select Job (Screen) 30
Select Drive Mode 31
Archive Files 31
2. Archive Select Files (Screen) 32
Begin Job 32
Toggle 32
Verify 32
Limit 32
Abort 33
Non-Listed Commands 33
3. Archive Job (Screen) 33
DeArchive Files 34
2. DeArchive Select Archive (Screen) 34
Verify 35
Mode 35
Abort 35
Non-Listed Commands 35
3. DeArchive Job (Screen) 35
Examine Archive (Source & Dest) 36
2. Examine Select Archive (Screen) 36
Non-Listed Commands 36
3. Examine Archive (Screen) 37
11. Dissolver 38
How The Dissolver Works 38
Dissolver Extensions 38
Using The Dissolver 38
1. Select Job (Screen) 39
Select Drive Mode 39
Convert Archives 40
2. Convert Select Files (Screen) 40
Begin Job 40

Toggle 40
Verify 40
Mode 40
Abort 41
Non-Listed Commands 41
3. Convert Job (Screen) 41
Examine MAD (Source & Dest) 42
12. 1541/1571/1581 Disk Boas 43
Disk Boa Extensions 43
Compress Disk 45
Using The Disk Boa (Compress) 45
1. Options (Screen) 45
Select Drive Mode 46
2. Job (Screen) 46
Decompress Disk 47
Using The Disk Boa (Decompress) 47
1. Options (Screen) 47
Select Drive Mode 48
2. Select Boa (Screen) 49
Non-Listed Commands 49
3. Job (Screen) 49
13. CMD Native Boa 50
1. Native Boa Extensions 50
2. Limit (Compress Partition) 51
Suggested CMD Native Boa Limits 51
Data File Generation 51
3. Expansion Warning (Decompress Partition) 52
14. Decomper 53
Features 53
15. Trouble Shooting 54
Bad Sectors 54
Unresponsive Drives 54
Fatal Errors 55
Serial Bus Problems 55
Commodore 1581 Hardware Problems 56
Intermittent Or Quirky Operation (RAM Devices) 56
Job Lockup (Security Key) 56
Cold Start Reset 57
Job Errors 57
16. Notes 61
Compression 61
Telecommunications Use 62
Tips 63

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The User's Manual was written by Gene Barker and proofread by Ryan Vander Stoep. The Compression Kit logo (the happy snake squeezing a helpless disk drive) was drawn by Gary Finken.

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This project is dedicated to all of those who believed.

CKit 94 Upgrade

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INTRODUCTION

The Compression Kit (CKit) marks the first product ever released by Mad Man Software. It is actually the second project taken on by the Mad staff.

The CKit was designed to fill a need at Mad Man Software for a RELIABLE backup utility with a REAL verify option which would work on ALL of the company's computers, RAM devices, and drives. This need was created by the development of Messiah III, a gigantic six disk side, state-of-the-art role-playing game for the Commodore 64/128. After using the CKit, and considering that Mad Man Software's specialty is entertainment software, you will better understand the magnitude of the previous statement.

The first feature you will notice, is that the CKit is easy to use. It is designed to allow you to choose the utility you want to use, the drives you wish to use it with, and the options you want, in the least number of steps possible. Thereby eliminating the use of cryptic command codes often found in other utilities. Every main menu includes the ability to return to the previous menu, with all of your previous settings intact. The CKit even remembers which utilities are presently in memory (which can be a great time saver).

The CKit is a backup utility. Accordingly, it contains strong error recovery features. If the CKit encounters a problem with a certain disk or file, the CKit will attempt to recover it with its "Try again (y/n)?" option. The verify option is especially powerful on the CKit. Not only can the CKit verify that your compressed backups are accurate, it can also verify that your decompressed backups are accurate. This actually makes the CKit more reliable than standard disk and file copiers. Of course, the big bonus of using the CKit to backup your files, disks, and partitions is that the backups are compressed and consume less space.

If you want to do more than just backup your data, the CKit's two all new utilities (the Dissolver and the Decomper) give you all the tools you need to setup a professional Commodore bulletin board system (BBS); without the pain of learning some strange unreliable outdated public domain utility. In fact, these utilities are the result of suggestions made by your fellow bulletin board system operators (SYSOP's) who have already bought the CKit. Thanks guys!

We are convinced that the CKit will become one of the most important utilities in your library for years to come.

The staff at Mad Man Software thanks you for your purchase.

Chapter 1: RULES

Here are five simple rules which will help keep you out of trouble when using the Compression Kit (CKit).

1. Always Keep The Security Key Plugged In.

Make sure that you plug the Security Key into joystick port #1 of your Commodore. The CKit can not operate without it. If by chance you forget to plug in the Security Key, the CKit will remind you after it boots up.

Once you begin using the CKit, DO NOT REMOVE THE SECURITY KEY. The CKit relies on the Security Key for certain functions, and will crash if the Security Key is not present.

Additionally, the CKit will crash if alterations are made to the internal code. So be sure you are using the authentic version of the CKit sent with this User's Manual.

2. No Software Based Fastloaders.

The CKit uses almost all of the available memory on your Commodore 64. The CKit also makes extensive use of drive memory. For most software based fastloaders this makes for a deadly combination. Therefore, disable any and all software based fastloaders before booting the CKit.

Hardware based fastloaders which replace the Kernal ROM in your computer and disk drive(s), and retain all of the standard Commodore ROM calls (such as Creative Micro Designs' JiffyDOS) should work flawlessly with the CKit. In fact, using a product like JiffyDOS significantly enhances the performance of the CKit.

3. Disk Drives Only On The Serial Bus.

The CKit allows you to choose which drives you wish to use for certain jobs. During this process the CKit looks for devices one at a time, using the device numbers (8) through (29). Many third party printers and printer interfaces will lock up the serial bus if it receives a command which it does not understand (which consequently locks up your computer). There are also several printers which do not follow Commodore's guidelines for serial bus activity (which can also lock up your computer).

Your solution: When using the CKit make sure that your printer is shut OFF and that your printer interface is DISABLED.

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4. Do Not Use Software Set Device Numbers (1541).

The CKit does not support software set device numbers. When the CKit encounters a serious problem with the Commodore 1541, it sends a cold start reset command to the drive (which erases the software set device number).

If you wish to use two or more 1541's with the CKit you must physically change the device number(s) of the additional drive(s). The instructions for doing this can be found in your Commodore 1541 Disk Drive User's Guide.

5. Do Not Use The Swap Buttons (CMD Devices).

Under no circumstances should you use the swap buttons on your CMD device(s). The CKit understands device numbers (8) through (29), so there is no need to use those swap buttons. Hands off!

Chapter 2: HARDWARE

Recommended System

The Compression Kit (CKit) is designed for advanced Commodore 64 and 128 systems. In order to fully utilize all of the CKit's abilities Mad Man Software recommends the following system as a minimum:

ONE OF THE FOLLOWING COMPUTERS
Commodore 64, 64C, 128, or 128D
AND ONE OF THE FOLLOWING RAM DEVICES
CMD RAMLink, PPI RAMDrive, or a 17XX REU with JiffyDOS
AND AT LEAST ONE OF THE FOLLOWING DRIVES
Commodore 1541/1571/1581 or any CMD Storage Device

Although the CKit will operate fine on systems which do not meet the above recommendation, its abilities will be limited.

REVIEWERS: The CKit is designed specifically for systems which meet the above published recommendation. You should not use the fact that the CKit will allow you to use a lesser system as a basis for review on that system. Since many of the CKit's advanced features are not accessible on lesser systems, a review based on such a system would do both your readers and Mad Man Software an injustice.

Compatible Hardware

Since the CKit is designed for advanced Commodore 64 and 128 home computer systems (both the North American NTSC and European PAL versions), it operates on the following computers:

COMPUTER	MODE
Commodore 64	Normal
Commodore 64C	Normal
Commodore SX-64	Normal
Commodore 128	64 Mode
Commodore 128D	64 Mode

The CKit is designed and tested to work with the following RAM devices:

RAM DEVICE	CAPACITY
Commodore 128 VDC RAM	Both 16K and 64K RAM Configurations
CMD RAMLink	First DACC Partition (up to 16Meg RAM)
PPI RAMDrive	First DACC Partition (up to 16Meg RAM)
Commodore 17XX REU	Stock and Expanded Units (up to 16Meg RAM)
CLD Super 1750 Clone	Full 512K RAM

The CKit is designed and tested to work with the following drives and their associated DOS's:

DRIVE MODEL	DOS VERSION
Commodore 1541	`CBM DOS V2.6 1541`
Commodore 1541C	`CBM DOS V2.6 1541`
Commodore 1541-II	`CBM DOS V2.6 1541`
Commodore 1571	`CBM DOS V3.0 1571`
Commodore 1581	`COPYRIGHT CBM DOS V10 1581`
CMD Hard Drive	`CMD HD DOS V1.82`
CMD RAMLink	`CMD RL DOS V2.00`
PPI RAMDrive	`CMD RD DOS V2.00`
CMD Floppy Drive	`CMD FD DOS V1.32`

Mad Man Software will continue to update the CKit as new drives and DOS's become available.

NOTE: See Chapter 15 for a description of hardware bugs found on early versions of the Commodore 1581.

Chapter 3: QUICK START

The first thing you should do once you open the Compression Kit (CKit) is read Chapters 1 through 6 and Chapter 15 of the User's Manual. The second thing you should do is BACKUP your Program Diskette. Below is an outline which takes you step by step through a simple CKit backup procedure; so you can backup your Program Diskette, and learn a little bit about the CKit at the same time.

1. Plug the Security Key into joystick port #1.

2. Insert the Program Diskette in your Commodore 1541 or 1571 disk drive and type:

Commodore DOS

```
LOAD"0:*",[n],1 [return]
```

JiffyDOS

```
      %0:* [return]
or    [shift][stop]
```

Where `[n]` is the device number of the disk drive. The CKit will then automatically boot itself.

3. Once the CKit finishes loading, it will place you in the Server. Now, using the cursor keys (use of the `[shift]` key is unnecessary) move the green light bar down a couple of positions so that it highlights Quit, then press `[return]`.

4. You have exited the CKit, and are now in Commodore BASIC. To return back to the CKit type:

```
SYS4 [return]
```

This should place you right back, into the Server.

5. Now select the Filemaster using the cursor keys, then press `[return]`.

6. You are now in the Drive Selector. The green light bar should be highlighting the word "Drive" in the section labeled Source. Tap the `[return]` key until the device `[n]` which you booted the CKit from appears next to the word "Drive".

> **NOTE:** Did the computer lockup? Maybe you should read the five important rules in Chapter 1. If your computer did lock up, turn off and/or disable all the printers and printer interfaces on the serial bus, then reset all of the drives (if you are still having problems, refer to Chapter 15).

Now move the light bar down to the word "Drive" in the section labeled Destination, and tap the [return] key until you get the same device that you selected in the Source section.

7. Now press the letter [a]. The CKit should show you a directory of the Source (Program Diskette). Now press [return] to return to the Drive Selector.

8. Find a blank formatted 5.25" diskette. Remove the Program Diskette and replace it with the blank disk. Press the letter [b] to get a directory of the Destination diskette.

> **NOTE:** If you encounter a "READ ERROR", you probably have an unformatted disk. So you will need to format it. Press [return] to leave the error screen. Now press the number [2] to issue a DOS command to the Destination drive. Type the standard Commodore 1541 DOS format command. Example:
>
> ```
> N0:CKIT 94,CK [return]
> ```
>
> The drive should format the disk. When formatting is complete the CKit will display the error message on the command channel (which should say O.K.). Now press [return], then press the letter [b] to get a directory of your newly formatted diskette.
>
> Ordinarily Mad Man Software recommends that you format disks outside of the CKit.

9. Return to the Drive Selector by pressing [return]. Now you are ready to backup your Program Diskette, so press [F1] to boot the Filemaster.

10. Oops, you left the Destination diskette in the drive. No problem. Replace the Destination diskette with the Program Diskette and press [return].

11. You are now in the Filemaster. To make sure that you setup the Source and Destination correctly, press [←] to abort. Compare the Source and Destination drives. If they are not the same, use the cursor and [return] keys as before to correct them. Otherwise, press [F1] to reboot the Filemaster. Notice that the CKit did not reload the Filemaster since it was already in memory.

12. You want to copy files. Use the cursor keys to place the light bar on Copy Files, then press [return]. The Filemaster will scan the directory for a second or two, then it will switch to its file selection screen. Try out all of the options except [F1]. Notice how selected files are marked RED, and unselected files are marked WHITE. Move the light bar around using the cursor keys (again use of the [shift] key is unnecessary). Try using the [home] key, try using the [shift][home] combination, and try using [shift][return]. These are time saving options which are not listed on the menu.

13. Press [m] the mode key until the word "ASK" appears next to the word "Mode" in the status area; press [v] the verify key until the word "ON" appears next to the word "Verify" in the status area; and press [t] the toggle key until all of the files in the directory are selected (this should take only one key stroke, unless you have already selected all of the files and just deselected them all). Now press [F1] to begin the job.

14. You are now on the job screen. In the status area, the Filemaster is asking "Begin Job - Are you sure (y/n)?" Press [n] for no. You are back on the file selection screen. Notice that all of your previous settings are intact. To return to the job screen press [F1]. Now answer yes to "Begin Job - Are you sure (y/n)?" by pressing the [y] key.

Immediately the job will begin. The Filemaster will fill up the buffer with all of the data it can, then ask you to insert the Destination disk. Replace the Program Diskette with the backup diskette then press [return]. The Filemaster will save the first file, verify it, then move on to the next. You can follow this process by watching the Status and Buffer areas. After the Filemaster finishes saving all of the data in the buffer, the program will ask you to insert the Source disk. So insert the Program Diskette and press [return]. Follow this process until the copy is complete.

You now have a verified backup of the files on your Program Diskette. Place your Program Diskette in a safe place, and use the backup as your main copy.

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Chapter 4: INSTALLATION

If you do not have a Commodore 1581, PPI RAMDrive, or a CMD storage device, you may skip this chapter and move on to Chapter 5. If you are installing the Compression Kit (CKit) for the first time, follow the installation instructions very closely. If you are a seasoned pro, just remember these two basic rules:

1. Copy all of the files from the Program Diskette to your new CKit disk and/or partition.

2. Make sure that you copy the CKit files to the ROOT directory in CMD Native partitions, or the ROOT partition on 1581 formatted disks (or 1581 Emulation partitions).

IMPORTANT: If you have a CMD RAMLink, PPI RAMDrive, or CMD Hard Drive, INSTALL THE CKIT ON IT! After installation, the CKit will never ask you to insert the Program Diskette again. If you want to install the CKit on a CMD Floppy Drive, install it on your work disks (the same disks you intend to use the CKit on). In all other cases, place the CKit main disk in the drive you use the least.

Commodore 1581 Installation:

1. Place the Security Key into joystick port #1.

2. Insert the Program Diskette into the disk drive.

3. Boot up the CKit by typing:

Commodore DOS

```
LOAD"0:*",[n],1 [return]
```

JiffyDOS

```
     %0:* [return]
or   [shift][stop]
```

Where `[n]` is the device number of the disk drive. Once the CKit has loaded, use the cursor keys to select the Filemaster, then press `[return]`.

4. You are now in the Drive Selector. The green light bar should be highlighting the word "Drive" in the section labeled Source. Tap the `[return]` key until the device `[n]` which you booted the CKit from appears next to the word "Drive".

5. Insert a blank 1581 formatted 3.5" DS/DD disk into your Commodore 1581 disk drive.

6. Move the light bar to the word "Drive" in the section labeled Destination. Tap the [return] key until the CKit chooses your 1581, and places the correct information next to the word "Drive".

7. The following instructions will copy all of the files from the Program Diskette to the Destination (in the fewest number of steps possible):

A. Press [F1] to boot the Filemaster.
B. Press [return] to select Copy Files.
C. Press [t] to select all of the files on the Program Diskette.
D. Press [F1] to begin job.
E. Press [y] to confirm.
F. Wait for job to finish.
G. Press [return] to acknowledge "Job Complete [return]".
H. Press [←] to leave the Filemaster.
I. Press [←] to exit the drive selector.
J. Move light bar down to Quit using the cursor keys, then press [return].
K. Put the Program Diskette away in a safe place.
L. Boot the CKit from the new copy.

CMD Floppy Drive Installation (1581 Mode)

1. Follow steps (1) through (4) above in Commodore 1581 Installation.

2. Insert a blank True 1581 formatted 3.5" DS/DD disk into your CMD Floppy Drive.

3. Move the light bar to the word "Drive" in the section labeled Destination. Tap the [return] key until the CKit chooses your FD, and places the correct information next to the word "Drive".

4. Move the light bar down one position to the word "Part". Press the [return] key. The label "(1581)" should appear at the end of "CMD Floppy Drive", indicating that the FD is in 1581 Mode.

5. Go to step (7) above in Commodore 1581 Installation.

CMD Floppy Drive Installation (Partitionable Mode)

1. Using the utility FD-TOOLS which came with your CMD Floppy Drive, create a Native partition with a recommended size of (768) blocks. The CKit will work perfectly in 1541/1571/1581 Emulation partitions, but it performs at optimum speed in Native partitions.

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2. After creating the new partition, exit FD-TOOLS, and follow steps (1) through (4) above in Commodore 1581 Installation.

3. Insert the CMD formatted disk (with your Destination CKit partition already created) into your FD.

4. Move the light bar to the word "Drive" in the section labeled Destination. Tap the `[return]` key until the CKit chooses your FD, and places the correct information next to the word "Drive".

5. Move the light bar down one position to the word "Part". Tap the `[return]` key until the partition which you created appears next to the word "Part".

6. Go to step (7) above in Commodore 1581 Installation.

CMD Hard Drive Installation

1. Using the utility HD-TOOLS which came with your CMD Hard Drive, create a Native partition with a recommended size of (768) blocks. The CKit will work perfectly in 1541/1571/1581 Emulation partitions, but it performs at optimum speed in Native partitions.

2. After creating the new partition, exit HD-TOOLS, and follow steps (1) through (4) above in Commodore 1581 Installation.

3. Move the light bar to the word "Drive" in the section labeled Destination. Tap the `[return]` key until the CKit chooses your HD, and places the correct information next to the word "Drive".

4. Move the light bar down one position to the word "Part". Tap the `[return]` key until the partition which you created appears next to the word "Part".

5. Go to step (7) above in Commodore 1581 Installation.

CMD RAMLink & PPI RAMDrive Installation

1. Using the utility RAM-TOOLS which came with your RAMLink/RAMDrive, create a Native partition with a recommended size of (768) blocks. The CKit will work perfectly in 1541/1571/1581 Emulation partitions, but it performs at optimum speed in Native partitions.

2. If you have not already done so, create a DACC partition with a recommended minimum size of (768) blocks. Be aware that the CKit will always use the first DACC partition found in memory, NOT necessarily the lowest numbered DACC partition.

3. After creating the new partition(s), exit RAM-TOOLS, and follow steps (1) through (4) above in Commodore 1581 Installation.

4. Move the light bar to the word "Drive" in the section labeled Destination. Tap the `[return]` key until the CKit chooses your RAMLink/RAMDrive, and places the correct information next to the word "Drive".

5. Move the light bar down one position to the word "Part". Tap the `[return]` key until the Native partition which you created appears next to the word "Part".

6. Go to step (7) above in Commodore 1581 Installation.

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Chapter 5: HOW TO USE THIS MANUAL

The Compression Kit (CKit) is completely menu driven. Using the menus, you should be able to find your way around the utilities included with your CKit. So reading the entire User's Manual is not necessary. However, Mad Man Software recommends that you read Chapters 1 through 6 and Chapter 15. These chapters will provide all the information you need to get started.

When problems or questions do arise, consult the appropriate chapter in this User's Manual. Each utility has its own chapter with detailed step by step instructions and several helpful examples. In most cases, you can find the information you need by referring to only one chapter.

Should you run into a technical problem that the User's Manual can not help you with, you can call Mad Man Software's user support line at (307) 632-1178.

Chapter 6: SERVER & DRIVE SELECTOR

Booting Up

Before booting up the Compression Kit (CKit), make sure that you plug the Security Key into joystick port #1. To boot the CKit, insert the Program Diskette and/or switch to the partition which you created in Chapter 4. Then, issue the command:

Commodore DOS

```
LOAD"0:*",[n],1 [return]
```

JiffyDOS

```
      %0:* [return]
or    [shift][stop]
```

Where `[n]` is the appropriate device number. The CKit will then automatically boot itself.

Systems Check

Whenever the CKit is first booted or reset, it will perform a series of checks on your Commodore system.

1. Checks for the Security Key. If the Security Key is not present, the CKit will remind you, and give you a chance to plug in the key.

2. Checks for what type of computer is present (a Commodore 64 or 128).

3. Checks if you have a CMD RAMLink or PPI RAMDrive DACC partition present. If one is found, the CKit checks for and displays the size of the partition.

4. Checks for a Commodore 17XX REU. If one is found, the CKit checks for and displays the size of the REU.

> **WARNING:** This check destroys the entire contents of the REU. This is necessary in order to determine the REU's compatibility and size.

5. If a Commodore 128 was detected, checks for the amount of VDC RAM present (16K or 64K) and displays the result.

> **NOTE:** At this point the CKit will initialize the RAM device setup to best fit your system. If you wish to view or change this default setup, use the Settings option.

Server

Once you are past the Systems Check, the CKit will enter the Server. The Server has ten (10) options:

OPTION	DESCRIPTION
Filemaster	Full featured fast file copier
Procopy	All purpose disk and partition copier
Archiver	Powerful file backup utility with compression
Dissolver	Converts CKit archives into self-dissolving archives
1541 Disk Boa	Whole disk compressor (compresses 1541 disks)
1571 Disk Boa	Whole disk compressor (compresses 1571 disks)
1581 Disk boa	Whole disk compressor (compresses 1581 disks)
CMD Native Boa	Native partition compressor (for CMD devices)
Settings	Selects compression speed and customizes CKit's use of RAM
Quit	Exits the CKit into Commodore BASIC V2.0

The Server has a green light bar. Use the cursor keys to move the light bar to the various options (use of the `[shift]` key is unnecessary). Notice that the section labeled "Description" to the right of the menu, contains a brief description of the option currently highlighted by the light bar. To select a utility, move the light bar to the utility you wish to use, then press `[return]`.

If you select the utility Procopy, you will be asked for a Copy Type:

COPY TYPE	DESCRIPTION
1541 Disk/Part	Copy a 5.25" SS/DD 1541 Disk or Emulation Partition
1571 Disk/Part	Copy a 5.25" DS/DD 1571 Disk or Emulation Partition
1581 Disk/Part	Copy a 3.5" DS/DD 1581 Disk or Emulation Partition
CMD Native Part	Copy an entire CMD Native Partition
Abort	Return to the main menu

Use the light bar to select the type of copy you wish to make, then press [return]. Abort will return you to the main menu.

If you select one of the Boas, you will be asked for a Boa Type:

BOA TYPE	DESCRIPTION
Compress	Compress a disk or partition into CKit files
Decompress	Decompress a disk or partition from CKit files
Abort	Return to the main menu

Use the light bar to select the type of Boa you wish to use, then press [return]. Compress allows you to compress disks or partitions into manageable CKit files. Decompress allows you to restore disks or partitions from those CKit files. Abort will return you to the main menu.

If you select Quit, the Server will exit into BASIC. In the case of an accidental exit, use the Server's SYS4 safety feature. To re-enter the Server type:

```
SYS4 [return]
```

You can issue DOS commands as well as run BASIC programs and safely return to the CKit by using this feature. Be aware that if a BASIC program manipulates non-BASIC memory (through machine language subroutines, POKEs outside of the I/O page, etc.), you may not be able to return to the CKit.

Settings

If you select Settings, the Server will send you to the Settings menu. The Settings menu allows you to select the compression speed if you have a Commodore 128 and it allows you to customize the CKit's use of expansion memory. The menu has five (5) options:

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OPTION
Enable 2MHz Mode w/Screen Blank
Enable DACC Partition Use
Enable 17XX REU Use
Enable VDC RAM Use
Test Enabled RAM Devices

Use the light bar to select the setting you wish to change, then press [return]. Press the [←] the abort key to return to the Server.

If you select Enable 2MHz Mode (available for Commodore 128's only), the CKit will blank the screen and place your 128 into Enhanced 2MHz Mode during the compression and decompression portions of a job. This option essentially doubles the compression speed. Keep in mind that the CKit must kick down to 1MHz Mode in order to perform any file or drive access (a limitation of Commodore DOS - not the CKit); so the speed gain may not be as high as you might expect.

If you select Enable DACC Partition Use, the CKit will utilize the first DACC partition found on your CMD RAMLink or PPI RAMDrive for buffer use.

CMD RAMLINK USERS: If you wish to use a 17XX REU and a DACC partition concurrently, make sure that the DACC partition does not use the REU's RAM space. Use the RAMTest utility to insure proper setup.

If you select Enable 17XX REU Use, the CKit will utilize your entire REU for buffer use.

If you select Enable VDC RAM Use (available for Commodore 128's only), the CKit will utilize your 128's VDC RAM for buffer use.

If you select Test Enabled RAM Devices, the CKit will load up the RAMTest utility and test your current RAM setup. RAMTest is a full fledged testing utility. Mad Man Software recommends that you run this utility for at least an hour with the RAM setup you intend to use with the CKit. If there are any problems with your setup, RAMTest will identify it (please refer to Chapter 7 for more information).

Drive Selector

Once you select a utility, the Server will send you to the Drive Selector. The Drive Selector allows you to choose your Source and Destination setups (drives, partitions, and paths). The CKit supports single drive setups as well as multiple drive setups.

There are three main sections to the Drive Selector. The first section is titled the Source and the second section is titled the Destination. Both of these sections are accessed by using the green light bar. The third section lies at the bottom of the screen and contains a short list of keystroke commands.

Setting The Source

NOTE: The Drive Selector will not allow you to choose drives, partitions, or paths which conflict with the utility. For example, if you select the 1581 Disk Boa on Compress, the Drive Selector will not allow you to choose a Commodore 1541 as the Source drive.

The green light bar along with the cursor and `[return]` keys are used to select the Source drive, partition, and path.

To select the Source drive, place the light bar on the word "Drive" and tap the `[return]` key until you see the device that you want.

The Drive Selector will look for device numbers (8) through (29) in ascending order as you tap the `[return]` key. If you tap `[shift][return]`, the Drive Selector will look for the same device numbers in descending order. This `[shift]` rule applies on several options found throughout the CKit.

IMPORTANT: IF YOU ARE USING A COMMODORE 1581 DRIVE OR A CMD FLOPPY DRIVE, YOU MUST INSERT THE SOURCE DISK BEFORE YOU SELECT YOUR SOURCE PARTITIONS AND THEIR PATHS (THIS ALSO APPLIES TO THE DESTINATION DISK).

To select the Source partition (CMD and PPI devices only), place the light bar on the word "Part" and tap the `[return]` key until you see the partition that you want. If you wish to go back to a previous partition, tap `[shift][return]`. The CKit looks for partitions (1) through (254) on CMD Hard Drives and partitions (1) through (31) on CMD RAMLinks, PPI RAMDrives, and CMD Floppy Drives.

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CMD HARD DRIVE USERS: Be careful with the select partition command. If you only have a few partitions and go past the last one, the CKit may take a few seconds before it wraps back around to the next available partition.

CMD FLOPPY DRIVE USERS: The partition command will interrogate the disk currently inside your FD. If the disk is in a CMD partitionable format, the partition commands will work as explained above. But if the disk is a True 1581 formatted Disk, the CKit will place the FD into 1581 Mode.

To select the Source path (Commodore 1581's, PPI RAMDrives, and CMD devices), place the light bar on the word "Path" and press `[return]`. If you are using a Commodore 1581, a CMD Floppy Drive in 1581 Mode, or a CMD/PPI device with a Native partition selected; the CKit will allow you to type in a path.

The CKit uses the same syntax as the CMD DOS paths. For example, if you must issue the following command to enter into a nested subdirectory:

Commodore DOS

```
OPEN15,12,15:PRINT#15,"CD//GAMES/ACTION/MONKEYS":CLOSE15 [return]
```

JiffyDOS

```
@CD//GAMES/ACTION/MONKEYS [return]
```

Type in only the path name, and leave the extras out:

```
//games/action/monkeys/
```

If you are using a Commodore 1581 or are in a 1581 Emulation partition, use the exact same syntax (as described above). For example, if you must normally issue the following commands to enter into a nested partition:

Commodore DOS

```
OPEN15,10,15:PRINT#15,"/":CLOSE15 [return]
OPEN15,10,15:PRINT#15,"/0:EVIL":CLOSE15 [return]
OPEN15,10,15:PRINT#15,"/0:DEMONS":CLOSE15 [return]
OPEN15,10,15:PRINT#15,"/0:CLINTON":CLOSE15 [return]
```

JiffyDOS

```
@/ [return]
@/0:EVIL [return]
@/0:DEMONS [return]
@/0:CLINTON [return]
```

Just use the following syntax, and the CKit will do all of that work for you:

```
//evil/demons/clinton/
```

Be aware that the CKit has a forty (40) character path limit. Should your path length be greater than forty (40) characters, you will have to reduce its length through the use of the Commodore wild card character `"*"`. For example, you could use the path:

```
//coll*/eng*/pap*/
```

In the place of:

```
//college/english/papers/
```

After you finish typing in the path, press `[return]`. The CKit will attempt to select that path. If an error occurs, you will get the standard DOS `"FILE NOT FOUND"` error, and the CKit will clear the path.

Setting The Destination

The process for selecting the Destination drive, partition, and path is identical to the Source. Should you have questions, refer to Setting The Source above.

SPECIAL CASE: If you selected 1581 Procopy or the 1581 Disk Boa on Decompress AND have a CMD Floppy Drive as your Destination drive; when you use the select partition command, if the CKit can not recognize the format of the disk in the FD (or no disk is present) the FD will default to 1581 Mode. This was done so that you may copy or restore 1581 disks on your FD without having to pre-format the Destination disks.

Drive Selector Commands

NOTE: The CKit will not allow you to use certain commands until the Source and/or Destination is setup correctly. The CKit will not display an error, it will just ignore the illegal keystrokes.

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[F1] Boot

Once you have your Source and Destination setups in order, you may press the [F1] key to begin booting the utility that you selected. The current utility name should be listed to the right of the word "Boot" in the menu area. If you are using a disk drive, you may have to insert the Program Diskette, so that the CKit can access its data files. The CKit will inform you if it needs the Program Diskette. In this case, just follow the instructions on the screen.

[←] Abort

This key will return you to the Server.

[a][b] Directory

When selected, this command will display the directory of [a] the Source or [b] the Destination. If you are fortunate enough to have a Real Time Clock (RTC) on your CMD device, the CKit will display a time and date stamped directory listing. Pressing [control] will either pause or slow the listing depending on your computer. You may press [stop] at any time, to stop reading the directory. When viewing a directory you can use the [shift][commodore] key combination to toggle between upper and lower case text modes. After the directory listing has stopped, press [return] to return to the Drive Selector.

[1][2] DOS Command

This command will allow you to send a DOS command to [1] the Source or [2] the Destination. Upon selecting this command, the CKit switches to the DOS Command screen. To issue a command, type in the desired command using the standard DOS syntax, then press [return]. Press [←] the abort key if you wish to return to the Drive Selector.

> **NOTE:** The CKit will send the DOS command to the exact partition and path that you specified in [1] the Source or [2] the Destination.

After the drive finishes the DOS command, the CKit will display the error message on the command channel. Press [return] to return to the Drive Selector.

Chapter 7: RAMTEST

RAMTest is an extensive testing utility designed to evaluate your current RAM device setup. If there is anything wrong with your current setup, RAMTest will detect it. To boot RAMTest select "Test Enabled RAM Devices" in the Settings menu.

WARNING: RAMTest is a destructive testing utility. Any data stored in the enabled DACC partition, 17XX REU, and VDC RAM - WILL BE DESTROYED.

Job (Screen)

Once selected, RAMTest jumps right into the Job (Screen). The Job (Screen) has three main sections. The top section is labeled Job. The text, "Test Enabled RAM Devices" appears here. The middle section labeled Status, is used to keep track of the current job in progress. And the bottom section labeled Buffer, helps you monitor the job's use of the current RAM setup.

The first message you will see in the Status area is, "Begin Job - Are you sure (y/n)?" If you select `[n]` no, RAMTest will return you to the Settings menu. If you select `[y]` yes, then RAMTest will begin the job.

Before RAMTest begins testing, it will warn you of the destructive nature of the test. Press `[return]` to continue the job. Press `[stop]` if you wish to cancel the job.

After you press `[return]`, RAMTest begins its testing cycle. RAMTest will continue this testing cycle until you stop it. When you wish to end the test and see a test report, press the `[stop]` key. Mad Man Software recommends that you test the RAM setup you intend to use with the CKit for at least an hour (preferably overnight).

Report (Screen)

In between each test cycle and when you end the test through the use of the `[stop]` key, RAMTest displays its Report (Screen).

The Report (Screen) lists the number of tests performed, DACC/REU conflicts detected, and device detection errors that occurred. RAMTest also features a RAM device error table. In this table, each RAM device is individually listed. Each enabled RAM device has a check mark to the left of the device name. To the right of the device name is the number times RAMTest detected the device, the number of addressing errors that occurred, and the number of integrity errors that occurred. Should an error of any kind occur, the faulty RAM device will be highlighted in RED.

At the bottom of the Report (Screen) is a RAMTest summary. The words, "SETUP PASSED" guarantees that your current RAM setup will work with the CKit.

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Chapter 8: FILEMASTER

The Filemaster is a full featured file copier. It will copy standard Commodore PRG, SEQ, and USR files. What makes the Filemaster different from other file copiers, is that it contains strong error recovery features and includes a full verify.

GEOS Users: Avoid using the Filemaster on GEOS disks and partitions. If you need to copy your GEOS data use the utility Procopy (please refer to Chapter 9).

Using The Filemaster

There are three basic steps you must take whenever you use the Filemaster:

1. Select the job (copy, move, or delete files).
2. Select the files for the job.
3. Monitor the job.

Each step has its own screen. The following text details each step in this process.

1. Select Job (Screen)

When you first enter the Filemaster from the Drive Selector you are given a short list of possible jobs:

OPTION	DESCRIPTIONS
Copy Files	Copies files from the Source to the Destination
Move Files	Moves files from the Source to the Destination
Delete Files	Deletes files from the Source

Before you select a job, INSERT YOUR SOURCE AND DESTINATION DISKS (IF YOU ARE ONLY USING ONE DRIVE, INSERT YOUR SOURCE DISK). To select a job, use the cursor keys to highlight the job that you want with the green light bar, then press `[return]`. Press `[←]` the abort key to return to the Drive Selector.

Select Drive Mode (Copy Files and Move Files)

If the Source and Destination drives are defined as the same Commodore 1581 or CMD Floppy Drive, then the Select Drive Mode menu will appear on the screen. If the Source and Destination partitions (and/or paths) are on the SAME disk, select [1] Single Disk. If the Source and Destination partitions (and/or paths) are on SEPARATE disks, select [2] Disk To Disk. If you wish to return to the Select Job (Screen), press [←] the abort key.

SPECIAL CASE: If the Source and Destination drives are defined as the same CMD Floppy Drive AND the Source is in a different mode than the Destination, then the Filemaster will automatically skip this menu. For example, if the Source is in 1581 Mode and the Destination is in CMD Partitionable Mode then the Filemaster would skip this menu.

Once you select an option, the Filemaster will scan the Source directory for the first (1200) valid files. If no valid files are available, the Filemaster will display a brief error message, and return you to the Select Job (Screen). If the Filemaster finds any valid files, it will switch to the Select Files (Screen).

NOTE: The Filemaster will only work with properly closed PRG, SEQ, and USR files. In order to be copied correctly, USR files must use standard Commodore sector chaining. The Filemaster will not copy REL files.

2. Select Files (Screen)

There are three important areas on this screen. At the top is the status area. The status area informs you of the number of selected files and blocks, the verify status, and the current copy mode. The large window directly beneath the status area, is the file list. Off to the right of the file list is a brief list of keystroke commands.

To scroll through the file list, use the cursor keys. Markers are used at the top and bottom of the file list window. These markers indicate whether or not you have reached the top or bottom of the file list. If you press the [return] key, the Filemaster will select the file that is currently highlighted by the light bar, and move the light bar down one position. Selected files are highlighted in RED, and unselected files are highlighted in WHITE.

[F1] Begin Job

After you finish selecting the files for a job, use this command to move on to the Job (Screen). If no files are selected the Filemaster will ignore this command.

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[t] Toggle

This command allows you to select all of the files with a single keystroke. If you have already selected all of the files, this command will deselect all of the files.

> **NOTE:** This toggle command works differently than most file copiers. The command either selects all of the files, or deselects all of the files. There is no in between.

[v] Verify

This command allows you to turn the verify feature ON and OFF. The current status of the feature can be found next to the word "Verify" in the status area. When the verify feature is ON, the Filemaster verifies each file for integrity after it is copied. When moving files, the Filemaster verifies the file on the Destination before it scratches it from the Source. Mad Man Software recommends that you leave the verify feature ON, especially when using the Move Files option.

[m] Mode

This command selects one of the following copy modes available:

MODE	DESCRIPTION
ASK	Upon each occurrence, asks if you wish to replace the file
REPLACE	Replaces files which have the same filename
SKIP	Skips files that already exist

The current copy mode is listed next to the word "Mode" in the status area. The mode tells the Filemaster how to deal with files that already exist on the Destination with the same filename.

[←] Abort

This key returns you to the Select Job (Screen).

Non-Listed Commands

`[home]` (move light bar to the top entry in the file list)
`[shift][home]` (move light bar to the last entry in the file list)
`[shift][return]` (select file and move the light bar up one position)

3. Job (Screen)

The Job (Screen) has three main sections. The top section is labeled Job. The job you selected (Copy Files, Move Files, or Delete Files) appears in this section. The middle section labeled Status, is used to keep track of the current job in progress. And the bottom section labeled Buffer, helps you monitor the job's use of the current RAM setup.

The most important section on the Job (Screen) is the status area. All of the user prompts and messages are placed here. The first message you will see is, "Begin Job - Are you sure (y/n)?" If you select `[n]` no, the Filemaster will return you to the Select Files (Screen). If you select `[y]` yes, then the Filemaster will begin the job.

Once the job begins, you always have the option of canceling the job by holding down the `[stop]` key. Should the Filemaster run into any problems or need to swap disks, it will inform you in the status area. Follow the instructions and prompts which appear in this area until the job is complete. If you run into any serious problems, please refer to Chapter 15.

IMPORTANT: The Filemaster has no way of knowing how much disk space is available on the Destination. If the Filemaster runs out of disk space, it will ABORT the job. Therefore, you must always pre-check the Destination (partition or disk) for adequate disk space before beginning a job.

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Chapter 9: PROCOPY

Procopy is a reliable fast disk and partition copier. It copies standard Commodore disks and CMD partitions, track by track, sector by sector. Procopy also includes the Compression Kit's (CKit) full verify option and strong error recovery features. Use Procopy when you need to make a WORKING backup of a disk or partition, otherwise use one of the CKit Boas that feature compression (please refer to Chapters 12 and 13).

NOTE: Procopy can not copy copy-protected disks.

Using Procopy

There are two steps you must take whenever you use Procopy.

1. Select options (begin job and verify).
2. Monitor the job.

Each step has its own screen.

1. Options (Screen)

When you first enter Procopy from the Drive Selector you are given two options:

OPTION	DESCRIPTION
Begin Job	Moves on to the Job (Screen)
Verify	Toggles the verify feature ON and OFF

Before you select anything, INSERT YOUR SOURCE AND DESTINATION DISKS (IF YOU ARE USING ONLY ONE DRIVE INSERT YOUR SOURCE DISK).

To select an option, use the cursor keys to highlight the option that you want with the green light bar, then press `[return]`. Press `[←]` the abort key to return to the Drive Selector.

When the verify feature is toggled ON, Procopy verifies each bit of data that it copies. Mad Man Software highly recommends that you leave the verify feature ON.

To begin copying place the light bar on Begin Job, then press `[return]`.

Select Drive Mode (CMD Floppy Drive)

If the Source and Destination drives are defined as the same CMD Floppy Drive, then the Select Drive Mode menu will appear on the screen. If the Source and Destination partitions are on the SAME disk, select [1] Single Disk. If the Source and Destination partitions are on SEPARATE disks, select [2] Disk To Disk. If you wish to return to the Options (Screen), press [←] the abort key.

SPECIAL CASE: If the Source and Destination drives are defined as the same CMD Floppy Drive AND the Source or the Destination is in 1581 Mode, then Procopy will automatically skip this menu. For example, if the Source is in 1581 Mode and the Destination is in CMD Partitionable Mode then Procopy would skip this menu.

2. Job (Screen)

The Job (Screen) has three main sections. The top section is labeled Job. The Copy Type you selected in the Server appears in this section:

COPY TYPE
Copy 1541 5.25" SS/DD Disk
Copy 1571 5.25" DS/DD Disk
Copy 1581 3.5" DS/DD Disk
Copy CMD Native Partition

The middle section labeled Status, is used to keep track of the current job in progress. And the bottom section labeled Buffer, helps you monitor the job's use of the current RAM setup.

The most important section on the Job (Screen) is the status area. All of the user prompts and messages are placed here. The first message you will see is, "Begin Job - Are you sure (y/n)?" If you select [n] no, Procopy will return you to the Options (Screen). If you select [y] yes, then Procopy will begin the job.

Once the job begins, you always have the option of canceling the job by holding down the [stop] key. Should Procopy run into any problems or need to swap disks, it will inform you in the status area. Follow the instructions and prompts which appear in this area until the job is complete. If you run into any serious problems, please refer to Chapter 15.

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WARNING: All the data on your Destination disk or partition WILL BE DESTROYED when you use this utility. Therefore, take extra precautions before beginning a copy job.

NOTE: If the Destination is a Commodore 1541/1571/1581 disk drive or a CMD Floppy Drive in 1581 Mode AND the copy was made in just one pass, then Procopy will ask if you would like to make another copy. If you select yes, the next copy will be made directly from RAM.

Chapter 10: ARCHIVER

The Archiver is an advanced file compression backup utility. It is designed to operate just like a file copier. If you know how to use the Filemaster, then you already know how to use most of the Archiver's features. It is in this similarity between the two utilities that lies the true power of the Archiver. Of course, as with all of the Compression Kit's (CKit) utilities, the Archiver sports strong error recovery features and built in verify options.

You will find that the Archiver is quite fast and easy to use.

> **GEOS USERS:** Avoid using the Archiver on GEOS disks and partitions. If you need to backup your GEOS data use the 1541/1571/1581 Disk and CMD Native Boas (please refer to Chapters 12 and 13).

Archiver Extensions

The CKit uses a filename extension system to identify the compressed files that it creates. The system supports both CBM and MS-DOS style naming. For CBM style naming, each filename consists of sixteen (16) characters. The first twelve (12) characters are used for the name of the archive, and the last four (4) characters are used for the extension. Examples:

```
"old letters ]ca-"
"basic games ]ca-"
"homework    ]ca-"
```

The first two characters of the extension, `"]c"` indicates that the file was created using the CKit. The third character, `"a"` indicates that the file is an archive (a collection of PRG, SEQ, and USR files). There are times when the extension will have a letter as its fourth character instead of a hyphen, `"-"`. For example:

```
"big archive ]caa"
"huge archive]cad"
```

This fourth letter tells you two things. One, it tells you that the archive has additional data files. And two, it tells you how many additional data files that the archive has. Data files have the same name, but they have a `"]c'"` extension. The data files begin with `"]c'a"`, then `"]c'b"`, then `"]c'c"`, and continue all the way up to `"]c'z"`. You can tell how many data files that an archive has by the character which follows the `"]ca"` extension. Study the examples below:

`"tiny archive]ca-"` (no data files)

`"big archive ]caa"` (1 data file, `"]c'a"`)
`"big archive ]c'a"`

```
"huge archive]cad" (4 data files, "]c'a", "]c'b", "]c'c", and "]c'd")
"huge archive]c'a"
"huge archive]c'b"
"huge archive]c'c"
"huge archive]c'd"
```

MS-DOS style naming is very similar. The only differences are that the filename can be anything from one (1) to eight (8) characters in length AND that the extension character is a "." instead of a "]". Examples:

```
"smallarc.ca-"
"zip.ca-"
"i.ca-"

"big.cab"
"big.c'a"
"big.c'b"
```

MS-DOS style naming insures that CKit files will work flawlessly with MS-DOS based bulletin board systems (BBS's).

Using The Archiver

Like the Filemaster, there are three basic steps you must take whenever you use the Archiver:

1. Select the job (archive, dearchive, or examine).
2. Select the files for the job.
3. Monitor the job.

Each step has its own screen. The following text details each step in this process.

1. Select Job (Screen)

When you first enter the Archiver from the Drive Selector you are given a short list of possible jobs:

OPTION	DESCRIPTION
Archive Files	Compresses standard files into CKit archive files
DeArchive Files	Decompresses CKit archive files into standard files
Examine Arc (Source)	Views the contents of CKit archive files in the Source directory
Examine Arc (Dest)	Views the contents of CKit archive files in the Destination directory

Before you select a job, INSERT YOUR SOURCE AND DESTINATION DISKS (IF YOU ARE USING ONLY ONE DRIVE INSERT YOUR SOURCE DISK). To select a job, use the cursor keys to highlight the job that you want with the green light bar, then press `[return]`. Press `[←]` the abort key to return to the Drive Selector.

Select Drive Mode (Archive Files and DeArchive Files)

If the Source and Destination drives are defined as the same Commodore 1581 or CMD Floppy Drive, then the Select Drive Mode menu will appear on the screen. If the Source and Destination partitions (and/or paths) are on the SAME disk, select `[1]` Single Disk. If the Source and Destination partitions (and/or paths) are on SEPARATE disks, select `[2]` Disk To Disk. If you wish to return to the Select Job (Screen), press `[←]` the abort key.

SPECIAL CASE: If the Source and Destination drives are defined as the same CMD Floppy Drive AND the Source is in a different mode than the Destination, then the Archiver will automatically skip this menu. For example, if the Source is in 1581 Mode and the Destination is in CMD Partitionable Mode then the Archiver would skip this menu.

Archive Files

Once you select the Archive Files option, the Archiver will scan the Source directory for the first (750) valid files. If no valid files are available, the Archiver will display a brief error message, and return you to the Select Job (Screen). If the Archiver finds any valid files, it will switch to the Archive Select Files (Screen).

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NOTE: The Archiver will only work with properly closed PRG, SEQ, and USR files. In order to be compressed correctly, USR files must use standard Commodore sector chaining. If you wish to compress REL files use the 1541/1571/1581 Disk and CMD Native Boas (please refer to Chapters 12 and 13).

2. Archive Select Files (Screen)

There are three important areas on this screen. At the top is the status area. The status area informs you of the number of files and blocks selected, the verify status, and the maximum archive file size. The large window directly beneath the status area, is the file list. Off to the right of the file list is a brief list of keystroke commands.

To scroll through the file list, use the cursor keys. Markers are used at the top and bottom of the file list window. These markers indicate whether or not you have reached the top or bottom of the file list. If you press the `[return]` key, the Archiver will select the file that is currently highlighted by the light bar, then move the light bar down one position. Selected files are highlighted in RED, and unselected files are highlighted in WHITE.

`[F1]` Begin Job

After you finish selecting the files to be compressed, use this command to move on to the Archive Job (Screen). If no files are selected the Archiver will ignore this command.

`[t]` Toggle

This command allows you to select all of the files with a single keystroke. If you have already selected all of the files possible, this command will deselect all of the files.

`[v]` Verify

This command allows you to turn the verify feature ON and OFF. The current status of the feature can be found next to the word "Verify" in the status area.

`[l]` Limit

The limit feature allows you to select the maximum size of the data files that the Archiver generates; thereby allowing you to separate large archives into manageable files of a designated length. The current limit is listed next to the word "Limit" in the status area. The limits you may select are NONE, (100), (200), (300), ..., (1000).

If you select NONE, the Archiver will generate only one data file for the entire archive. If you select one of the limits, the Archiver will limit the sizes of the data files that it generates to that limit. For example, if the archive will consume (250) blocks and you select a limit of (100) blocks, then the Archiver will generate two (100) block data files and one (50) block data file (100 blocks + 100 blocks + 50 blocks = 250 blocks). Since an archive is limited to a maximum of (27) data files, once you select a limit, you are limiting the maximum size of the archive. If you are compressing more than (2,700) blocks worth of files, you should consult the table below.

LIMIT	MAXIMUM ARCHIVE SIZE
NONE	Infinite
100	27 × 100 = 2,700 Blocks
200	27 × 200 = 5,400 Blocks
300	27 × 300 = 8,100 Blocks
. . .	. . .
1000	27 × 1000 = 27,000 Blocks

[←] Abort

This key returns you to the Select Job (Screen).

Non-Listed Commands

`[home]` (move light bar to the top entry in the file list)
`[shift][home]` (move light bar to the last entry in the file list)
`[shift][return]` (select file and move the light bar up one position)
`[shift][l]` (selects the next lowest limit)

3. Archive Job (Screen)

The Archive Job (Screen) has three main sections. The top section labeled Job, lists the job you selected, "Archive Files". The middle section labeled Status, is used to keep track of the job. And the bottom section labeled Buffer, helps you monitor the job's use of the current RAM setup. The most important section on the Archive Job (Screen) is the status area. All of the user prompts and messages are placed here. The first message you will see is, "[*] Enter

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CBM archive name (12 ch's)." If you wish to use MS-DOS style naming press the [*] key and the message will change to, "[*] Enter DOS archive name." The [*] toggles between CBM and DOS naming styles (see Archive Extensions earlier in this chapter for more information). Now type in a filename for the archive and press [return]. If you wish to go back to the Archive Select File (Screen), just press [return]. After you enter a valid archive filename, the Archiver will ask you, "Begin Job - Are you sure (y/n)?" If you select [n] no, the Archiver will return you to the Archive Select Files (Screen). If you select [y] yes, then the Archiver will begin the job.

Once the job begins, you always have the option of canceling the job by holding down the [stop] key. Should the Archiver run into any problems or need to swap disks, it will inform you in the status area. Follow the instructions and prompts which appear in this area until the job is complete. If you run into any serious problems, please refer to Chapter 15.

NOTE: If you selected a limit AND have selected a disk drive as your Destination device, the Archiver will automatically detect whether you need to swap disks or not. This allows you to create large archives on multiple floppy disks.

DeArchive Files

Once you select the DeArchive Files option, the Archiver will scan the Source directory for the first (750) valid files with the "]ca" and ".ca" extensions. If no valid files are present, the Archiver will display a brief error message, and return you to the Select Job (Screen). If the Archiver finds any valid files, it will switch to the DeArchive Select Archive (Screen).

2. DeArchive Select Archive (Screen)

There are three important areas on this screen. At the top is the status area. The status area informs you of the verify status and the current copy mode. The large window directly beneath the status area, is the file list. Off to the right of the file list is a brief list of keystroke commands.

To scroll through the file list, use the cursor keys. Markers are used at the top and bottom of the file list window. These markers indicate whether or not you have reached the top or bottom of the file list. If you press the [return] key, the Archiver will select the file that is currently highlighted by the light bar and move on to the DeArchive Job (Screen).

[v] Verify

This command allows you to turn the verify feature ON and OFF. The current status of the feature can be found next to the word "Verify" in the status area.

[m] Mode

This command selects one of the following copy modes available:

MODE	DESCRIPTION
ASK	Upon each occurrence, asks if you wish to replace the file
REPLACE	Replaces files which have the same filename
SKIP	Skips files that already exist

The current copy mode is listed next to the word "Mode" in the status area. The mode tells the Archiver how to deal with files that already exist on the Destination with the same filename.

[←] Abort

This key returns you to the Select Job (Screen).

Non-Listed Commands

[home] (move light bar to the top entry in the file list)
[shift][home] (move light bar to the last entry in the file list)

3. DeArchive Job (Screen)

The DeArchive Job (Screen) has three main sections. The top section is labeled Job. The job you selected (DeArchive) and the file you selected to DeArchive appears in this section. The middle section labeled Status, is used to keep track of the current job in progress. And the bottom section labeled Buffer, helps you monitor the job's use of the current RAM setup.

The most important section on the DeArchive Job (Screen) is the status area. All of the user prompts and messages are placed here. The first message you will see is, "Begin Job - Are you sure (y/n)?" If you select [n] no, the Archiver will return you to the DeArchive Select Archive (Screen). If you select [y] yes, then the Archiver will begin the job.

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Before the Archiver begins decompressing files, it will warn you of the number of files and blocks that the archive will expand into. Press [return] to continue the job. Press [stop] if you wish to cancel the job.

As the Archiver is executing the job, keep in mind that you always have the option of canceling the job by holding down the [stop] key. Should the Archiver run into any problems or need to swap disks, it will inform you in the status area. Follow the instructions and prompts which appear in this area until the job is complete. If you run into any serious problems, please refer to Chapter 15.

NOTE: If the Archiver can not find an archive data file AND you have selected a disk drive as your Source device, the Archiver will give you a chance to swap Source disks. This allows you to decompress large archives whose data files are on multiple disks.

Examine Archive (Source & Dest)

This handy option allows you to view the contents of archives created by the CKit.

Once you select the Examine Archive option, the Archiver will scan the selected directory for the first (750) valid files with the "]ca" and ".ca" extensions. If no valid files are present, the Archiver will display a brief error message, and return you to the Select Job (Screen). If the Archiver finds any valid files, it will switch to the Examine Select Archive (Screen).

2. Examine Select Archive (Screen)

There are two basic areas on this screen. The large window on the left of the screen, is the file list. Off to the right of the file list is a short menu.

To scroll through the file list, use the cursor keys. Markers are used at the top and bottom of the file list window. These markers indicate whether or not you have reached the top or bottom of the file list. If you press the [return] key, the Archiver will select the file that is currently highlighted by the light bar and move on to the Examine Archive (Screen). If you press [←] the abort key, the Archiver will return you to the Select Job (Screen).

Select the archive you wish to examine and press [return].

Non-Listed Commands

[home] (move light bar to the top entry in the file list)
[shift][home] (move light bar to the last entry in the file list)

3. Examine Archive (Screen)

After scanning the header (the beginning) of the archive's first file, the Archiver switches to this screen. The format of the screen is just like the Examine Select Archive (Screen), except at the top of the file list window is a list of statistics for the archive:

STATISTIC	DESCRIPTION
Name	Name of the archive being examined
Files	Number of files in the archive
Blocks	Number of blocks that the archive expands into
Ver	Version of the CKit used to create the archive

The file list window contains a list of the files in the archive. Using the cursor keys you can scroll through each of the files and examine its name, number of blocks, and type (PRG, SEQ, or USR). The file list window on this screen uses the same markers as the Examine Select Archive (Screen), to indicate whether or not you have reached the top or bottom of the file list.

If you press [←] the abort key, the Archiver will return you to the Select Job (Screen).

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Chapter 11: DISSOLVER

The Dissolver is a new Compression Kit (CKit) utility which allows you to easily create what are known as self-dissolving-archives (MAD files). MAD files are popular since they are easy for beginners to use. To decompress a MAD file, all the user must do is LOAD the file and RUN it; just like a BASIC program. The archive will automatically decompress itself. Additionally, the Dissolver allows you to view the contents of these MAD files.

> **NOTE:** The Dissolver converts archives created by the Archiver into MAD files. The archives must be no larger than (192) blocks each.

How The Dissolver Works

The Dissolver copies about eight blocks of decompression code to a file; then it copies the archive you selected to the end of that file. So each MAD file will be about eight blocks larger in size than the original archive. If you are creating several archives, it might be better to leave the archives in their original format and just include a copy of the new freely distributable Decomper with them.

Dissolver Extensions

The Dissolver uses the same filename style as the archive it is converting and simply changes the extension to a `"mad"`. Please study the examples below:

SOURCE ARCHIVE FILENAME	DESTINATION DISSOLVER FILENAME
`"bad poetry ]ca-"`	`"bad poetry ]mad"`
`"Rap Music ]ca-"`	`"Rap Music ]mad"`
`"copiers.ca-"`	`"copiers.mad"`
`"stp.ca-"`	`"stp.mad"`

Notice that only archives with the `"]ca-"` and `".ca-"` extensions are used. For more information, please refer to Archiver Extensions in Chapter 10.

Using The Dissolver

Like the Filemaster, there are three basic steps you must take whenever you use the Dissolver:

1. Select the job (convert archives or examine).
2. Select the files for the job.
3. Monitor the job.

Each step has its own screen. The following text details each step in this process.

1. Select Job (Screen)

When you first enter the Dissolver from the Drive Selector you are given a short list of possible jobs:

OPTION	DESCRIPTION
Convert Archives	Converts CKit archives into CKit MAD files
Examine MAD (Source)	Views the contents of CKit MAD files in the Source directory
Examine MAD (Dest)	Views the contents of CKit MAD files in the Destination directory

Before you select a job, INSERT YOUR SOURCE AND DESTINATION DISKS (IF YOU ARE USING ONLY ONE DRIVE INSERT YOUR SOURCE DISK). To select a job, use the cursor keys to highlight the job that you want with the green light bar, then press `[return]`. Press `[←]` the abort key to return to the Drive Selector.

Select Drive Mode (Convert Archives)

If the Source and Destination drives are defined as the same Commodore 1581 or CMD Floppy Drive, then the Select Drive Mode menu will appear on the screen. If the Source and Destination partitions (and/or paths) are on the SAME disk, select `[1]` Single Disk. If the Source and Destination partitions (and/or paths) are on SEPARATE disks, select `[2]` Disk To Disk. If you wish to return to the Select Job (Screen), press `[←]` the abort key.

SPECIAL CASE: If the Source and Destination drives are defined as the same CMD Floppy Drive AND the Source is in a different mode than the Destination, then the Dissolver will automatically skip this menu. For example, if the Source is in 1581 Mode and the Destination is in CMD Partitionable Mode then the Dissolver would skip this menu.

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Convert Archives

Once you select the Convert Archives option, the Dissolver will scan the Source directory for the first (750) valid files with the "]ca-" and ".ca-" extensions that have sizes of (192) blocks or less. If no valid files are present, the Dissolver will display a brief error message, and return you to the Select Job (Screen). If the Dissolver finds any valid files, it will switch to the Convert Select Files (Screen).

2. Convert Select Files (Screen)

There are three important areas on this screen. At the top is the status area. The status area informs you of the number of selected files and blocks, the verify status, and the current copy mode. The large window directly beneath the status area, is the file list. Off to the right of the file list is a brief list of keystroke commands.

To scroll through the file list, use the cursor keys. Markers are used at the top and bottom of the file list window. These markers indicate whether or not you have reached the top or bottom of the file list. If you press the [return] key, the Dissolver will select the file that is currently highlighted by the light bar, and move the light bar down one position. Selected files are highlighted in RED, and unselected files are highlighted in WHITE.

[F1] Begin Job

After you finish selecting the files for the job, use this command to move on to the Convert Job (Screen). If no files are selected the Dissolver will ignore this command.

[t] Toggle

This command allows you to select all of the files with a single keystroke. If you have already selected all of the files, this command will deselect all of the files.

[v] Verify

This command allows you to turn the verify feature ON and OFF. The current status of the feature can be found next to the word "Verify" in the status area.

[m] Mode

This command selects one of the following copy modes available:

MODE	DESCRIPTION
ASK	Upon each occurrence, asks if you wish to replace the file
REPLACE	Replaces files which have the same filename
SKIP	Skips files that already exist

The current copy mode is listed next to the word "Mode" in the status area. The mode tells the Dissolver how to deal with MAD files that already exist on the Destination with the same filename.

[←] Abort

This key returns you to the Select Job (Screen).

Non-Listed Commands

`[home]` (move light bar to the top entry in the file list)
`[shift][home]` (move light bar to the last entry in the file list)
`[shift][return]` (select file and move the light bar up one position)

3. Convert Job (Screen)

The Convert Job (Screen) has three main sections. The top section is labeled Job. The job you selected (Convert Archives) appears in this section. The middle section labeled Status, is used to keep track of the current job in progress. And the bottom section labeled Buffer, helps you monitor the job's use of the current RAM setup.

The most important section on the Convert Job (Screen) is the status area. All of the user prompts and messages are placed here. The first message you will see is, "Begin Job - Are you sure (y/n)?" If you select `[n]` no, the Dissolver will return you to the Convert Select Files (Screen). If you select `[y]` yes, then the Dissolver will begin the job.

Once the job begins, you always have the option of canceling the job by holding down the `[stop]` key. Should the Dissolver run into any problems or need to swap disks, it will inform you in the status area. Follow the instructions and prompts which appear in this area until the job is complete. If you run into any serious problems, please refer to Chapter 15.

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IMPORTANT: The Dissolver has no way of knowing how much disk space is available on the Destination. If the Dissolver runs out of disk space, it will ABORT the job. Therefore, you must always pre-check the Destination (partition or disk) for adequate disk space before beginning a job.

Examine MAD (Source & Dest)

This handy option allows you to view the contents of MAD files created by the CKit.

This option works exactly like the Archiver's Examine Archive option, except that it works with MAD files which have `"]mad"` and `".mad"` extensions.

NOTE: If you need more help or information please refer to the Examine Archive option in Chapter 10.

Chapter 12: 1541/1571/1581 DISK BOAS

These three utilities allow you to compress and decompress standard Commodore formatted disks or CMD Emulation partitions. The nickname 'Boa' was chosen since boa constrictors squeeze their prey and likewise the Compression Kit (CKit) squeezes disks. Each Disk Boa works the same, so once you know how to use one of them, you know how to use all three of them.

UTILITY	FUNCTION
1541 Disk Boa	Compresses Commodore 1541 5.25" SS/DD Disks and CMD 1541 Emulation partitions into CKit boa files (also decompresses)
1571 Disk Boa	Compresses Commodore 1571 5.25" DS/DD Disks and CMD 1571 Emulation partitions into CKit boa files (also decompresses)
1581 Disk Boa	Compresses Commodore 1581 3.5" DS/DD Disks and CMD 1581 Emulation partitions into CKit boa files (also decompresses)

The Disk Boas compress entire disks (track by track and sector by sector) into convenient CKit boa files. The Disk Boas also decompress boa files back into disks. Using the Disk Boas to backup your disks is more reliable than using standard disk copiers. Boa files have the ability to know whether they are accurate or not. Backup disks do not have this ability. This is why Mad Man Software recommends that you backup your disks with the Disk Boas instead of Procopy.

NOTE: The Disk Boas can not compress copy protected disks.

Disk Boa Extensions

Like the Archiver, the Disk Boas use a filename extension system to identify the compressed files (boas) that they create. The system supports both CBM and MS-DOS style naming. For CBM style naming, each filename consists of sixteen (16) characters. The first twelve (12) characters are used for the name of the boa, and the last four (4) characters are used for the extension. Examples:

```
"1541 disk    ]c4-"
"1571 disk    ]c7-"
"1581 disk    ]c8-"
```

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The first two characters of the extension, "]c" indicates that the file was created using the CKit. The third character a "4", "7", or "8" indicates that the file is a compressed disk (1541, 1571, or 1581 disk). There are times when the extension will have a letter as its fourth character instead of a hyphen, "-". For example:

```
"half empty   ]c4a"
"full disk    ]c7d"
```

This fourth letter tells you two things. One, it tells you that the boa has additional data files. And two, it tells you how many additional data files that the boa has. Data files have the same name, but they have a "]c'" extension. The data files begin with "]c'a", then "]c'b", then "]c'c", and continue all the way up to "]c'z". You can tell how many data files that a boa has by the character which follows the "]c4", "]c7", or "]c8" extension. Study the examples below:

```
"empty disk   ]c8-" (no data files)

"half empty   ]c4a" (1 data file, "]c'a")
"half empty   ]c'a"

"full disk    ]c7d" (4 data files, "]c'a", "]c'b", "]c'c", and "]c'd")
"full disk    ]c'a"
"full disk    ]c'b"
"full disk    ]c'c"
"full disk    ]c'd"
```

MS-DOS style naming is very similar. The only differences are that the filename can be anything from one (1) to eight (8) characters in length AND that the extension character is a "." instead of a "]". Examples:

```
"geoshelp.c8-"
"games.c7-"
"t2.c4-"

"m3diska.c4c"
"m3diska.c'a"
"m3diska.c'b"
"m3diska.c'c"
```

MS-DOS style naming insures that CKit files will work flawlessly with MS-DOS based bulletin board systems (BBS's).

Compress Disk

Using The Disk Boa (Compress)

There are two steps you must take whenever you use a Disk Boa to compress a disk.

1. Select options (begin job, verify, and limit).
2. Monitor the job.

Each step has its own screen. The following text details each step in this process.

1. Options (Screen)

When you first enter a Disk Boa from the Drive Selector you are given three options:

OPTION	DESCRIPTION
Begin Job	Moves on to the Job (Screen)
Verify	Toggles the verify feature ON and OFF
Limit	Sets the maximum boa data file size

Before you select any of the options, INSERT YOUR SOURCE AND DESTINATION DISKS (IF YOU ARE USING ONLY ONE DRIVE INSERT YOUR SOURCE DISK).

To select an option, use the cursor keys to highlight the option that you want with the green light bar, then press `[return]`. Press `[←]` the abort key to return to the Drive Selector.

When the verify feature is toggled ON, the Disk Boa verifies each bit of data that it compresses.

The limit feature allows you to select the maximum size of the data files that the Disk Boa generates; thereby allowing you to separate large boas into manageable files of a designated length. The current limit is listed next to the word "Limit" in the status area. The limits you may select depend upon which Disk Boa you are using. Please see the table below.

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DISK BOA	LIMITS
1541 Disk Boa	NONE, (100), (200), (300), ... , (600)
1571 Disk Boa	NONE, (100), (200), (300), ... , (1300)
1581 Disk Boa	NONE, (200), (300), (400), ... , (3200)

If you select NONE, the Disk Boa will generate only one data file for the entire boa. If you select one of the limits, the Disk Boa will limit the sizes of the data files that it generates to that limit. For example, if the boa will consume (450) blocks and you select a limit of (200) blocks, then the Disk Boa will generate two (200) block data files and one (50) block data file (200 blocks + 200 blocks + 50 blocks = 450 blocks).

To begin compressing a disk place the light bar on Begin Job, then press `[return]`.

Select Drive Mode (CMD Floppy Drive)

If the Source and Destination drives are defined as the same CMD Floppy Drive, then the Select Drive Mode menu will appear on the screen. If the Source and Destination partitions are on the SAME disk, select [1] Single Disk. If the Source and Destination partitions are on SEPARATE disks, select [2] Disk To Disk. If you wish to return to the Options (Screen), press `[←]` the abort key.

Special Case: If the Source and Destination drives are defined as the same CMD Floppy Drive AND the Source or the Destination is in 1581 Mode, then the Disk Boa will automatically skip this menu. For example, if the Source is in 1581 Mode and the Destination is in CMD Partitionable Mode then the Disk Boa would skip this menu.

2. Job (Screen)

The Job (Screen) has three main sections. The top section is labeled Job. The Disk Boa Type you selected in the Server appears in this section:

DISK BOA TYPE
Compress 1541 5.25" SS/DD Disk
Compress 1571 5.25" DS/DD Disk
Compress 1581 3.5" DS/DD Disk

The middle section labeled Status, is used to keep track of the job. And the bottom section labeled Buffer, helps you monitor the job's use of the current RAM setup.

The most important section on the Job (Screen) is the status area. All of the user prompts and messages are placed here. The first message you will see is, "[*] Enter CBM boa name (12 ch's)." If you wish to use MS-DOS style naming press the `[*]` key and the message will change to, "[*] Enter DOS boa name." The `[*]` toggles between CBM and DOS naming styles (see Boa Extensions earlier in this chapter for more information). Now type in a filename for the boa and press `[return]`. If you wish to go back to the Options (Screen), just press `[return]`. After you enter a valid boa filename, the Disk Boa will ask you, "Begin Job - Are you sure (y/n)?" If you select `[n]` no, the Disk Boa will return you to the Options (Screen). If you select `[y]` yes, then the Disk Boa will begin the job.

Once the job begins, you always have the option of canceling the job by holding down the `[stop]` key. Should the Disk Boa run into any problems or need to swap disks, it will inform you in the status area. Follow the instructions and prompts which appear in this area until the job is complete. If you run into any serious problems, please refer to Chapter 15.

NOTE: If you selected a limit AND have selected a disk drive as your Destination device, the Disk Boa will automatically detect whether you need to swap disks or not. This allows you to create large boas on multiple floppy disks.

Decompress Disk

Using The Disk Boa (Decompress)

There are three basic steps you must take whenever you use a Disk Boa to decompress a disk:

1. Select options (begin job and verify).
2. Select the boa file for the job.
3. Monitor the job.

Each step has its own screen. The following text details each step in this process.

1. Options (Screen)

When you first enter the Disk Boa from the Drive Selector you are given two options:

OPTION	DESCRIPTION
Begin Job	Moves on to the Select Boa (Screen)
Verify	Toggles the verify feature ON and OFF

Before you select a option, INSERT YOUR SOURCE AND DESTINATION DISKS (IF YOU ARE USING ONLY ONE DRIVE INSERT YOUR SOURCE DISK).

To select an option, use the cursor keys to highlight the option that you want with the green light bar, then press `[return]`. Press `[←]` the abort key to return to the Drive Selector.

When the verify feature is toggled ON, the Disk Boa verifies each bit of data that it decompresses. Mad Man Software highly recommends that you leave the verify feature ON.

To begin decompressing a disk place the light bar on Begin Job, then press `[return]`.

Select Drive Mode (CMD Floppy Drive)

If the Source and Destination drives are defined as the same CMD Floppy Drive, then the Select Drive Mode menu will appear on the screen. If the Source and Destination partitions are on the SAME disk, select `[1]` Single Disk. If the Source and Destination partitions are on SEPARATE disks, select `[2]` Disk To Disk. If you wish to return to the Options (Screen), press `[←]` the abort key.

Special Case: If the Source and Destination drives are defined as the same CMD Floppy Drive AND the Source or the Destination is in 1581 Mode, then the Disk Boa will automatically skip this menu. For example, if the Source is in 1581 Mode and the Destination is in CMD Partitionable Mode then the Disk Boa would skip this menu.

Once you select the Begin Job option, the Disk Boa will scan the Source directory for the first (750) valid files with the appropriate `"]c4"`, `"]c7"`, or `"]c8"` boa extension. If no valid files are present, the Disk Boa will display a brief error message, and return you to the Options (Screen). If the Disk Boa finds any valid files, it will switch to the Select Boa (Screen).

2. Select Boa (Screen)

The Select Boa (Screen) is composed of one large file list window. To scroll through the file list, use the cursor keys. Markers are used at the top and bottom of the file list window. These markers indicate whether or not you have reached the top or bottom of the file list. If you press the [return] key, the Disk Boa will select the file that is currently highlighted by the light bar and move on to the Job (Screen). If you press [←] the abort key, the Disk Boa will return you to the Options (Screen).

Select the boa file that you wish to decompress and press [return].

Non-Listed Commands

[home] (move light bar to the top entry in the file list)
[shift][home] (move light bar to the last entry in the file list)

3. Job (Screen)

The Job (Screen) has three main sections. The top section is labeled Job. The boa file you selected appears in this section following the word "Decompress". The middle section labeled Status, is used to keep track of the current job in progress. And the bottom section labeled Buffer, helps you monitor the job's use of the current RAM setup.

The most important section on the Job (Screen) is the status area. All of the user prompts and messages are placed here. The first message you will see is, "Begin Job - Are you sure (y/n)?" If you select [n] no, the Disk Boa will return you to the Select Boa (Screen). If you select [y] yes, then the Disk Boa will begin the job.

Once the job begins, you always have the option of canceling the job by holding down the [stop] key. Should the Disk Boa run into any problems or need to swap disks, it will inform you in the status area. Follow the instructions and prompts which appear in this area until the job is complete. If you run into any serious problems, please refer to Chapter 15.

NOTE: If the Disk Boa can not find a boa data file AND you have selected a disk drive as your Source device, the Disk Boa will give you a chance to swap Source disks. This allows you to decompress large boas whose data files are on multiple disks.

WARNING: All the data on your Destination disk or partition WILL BE DESTROYED when you use this utility. Therefore, take extra precautions before beginning a decompress job.

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Chapter 13: CMD NATIVE BOA

The Native Boa allows you to compress and decompress CMD Native partitions of any size. With this utility you can backup your Native partitions onto multiple floppy disks or to separate partitions. The Native Boa operates just like the 1541/1571/1581 Disk Boas in Chapter 12 with the following three exceptions:

1. Native Boa Extensions

The Native Boa has its own extension system to identify the compressed files (boas) that it creates. The system supports both CBM and MS-DOS style naming. For CBM style naming, each filename consists of sixteen (16) characters. The first twelve (12) characters are used for the name of the boa, and the last four (4) characters are used for the extension. Examples:

```
"basic utils ]cmd"
"text editors]cmd"
"games       ]cmd"
```

The extension `"]cmd"` indicates that the file is a compressed CMD Native partition. This extension also indicates that the file is the root file (first file) of the boa. Should the boa have additional data files, the data files will retain the same boa name but will have a number for its extension. For example:

```
"ham project ]cmd"
"ham project ]001"
"ham project ]002"
"ham project ]003"

"font backups]cmd"
"font backups]001"
```

A large boa may have up to (999) data files. There should never be a situation where (999) data files are needed. Although the Native Boa will allow you to create a boa with hundreds of data files, Mad Man Software recommends that you keep the number of data files down to a manageable level by selecting larger data file limits.

MS-DOS style naming is very similar. The only differences are that the filename can be anything from one (1) to eight (8) characters in length AND that the extension character is a `"."` instead of a `"]"`. Examples:

```
"oldfiles.cmd"
"old.cmd"
"database.cmd"

"docs.cmd"
"docs.001"
"docs.002"
```

MS-DOS style naming insures that CKit files will work flawlessly with MS-DOS based bulletin board systems (BBS's).

2. Limit (Compress Partition)

The limits you may select are (NONE), (100), (200), (300), ... , (20000). Do not select a limit which is larger than your Destination disk or partition size. Please refer to the chart below for Mad Man Software's suggested limits.

SUGGESTED CMD NATIVE BOA LIMITS	
DESTINATION DISK TYPE	**LIMIT**
1541 5.25" SS/DD Disk	600
1571 5.25" DS/DD Disk	1300
1581 3.5" DS/DD Disk	3200

For the larger Native partitions, the total number of data files may surprise you. If the partition is mostly empty you may end up with one small file for the entire partition. But, if the partition is filled with information you may have a major backup job on your hands.

DATA FILE GENERATION (WORST CASE ANALYSIS)				
PARTITION SIZE		**NUMBER OF DATA DISKS/FILES**		
TRACKS	**BLOCKS**	**1541 DISKS LIMIT 600**	**1571 DISKS LIMIT 1300**	**1581 DISKS LIMIT 3200**
1	256	1	1	1
5	1,280	3	1	1
10	2,560	5	2	1
50	12,800	22	10	4
100	25,600	43	20	8
255	65,280	109	51	21

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3. Expansion Warning (Decompress Partition)

The Native Boa will warn you before it begins decompressing, of the number of tracks and blocks that the boa will require (for successful decompression). Make sure that the Destination partition is large enough for the boa. The Native Boa will allow you to decompress a larger partition onto a smaller one but YOU MAY LOSE DATA IN THIS PROCESS.

NOTE: If you need more help or information please refer to the 1541/1571/1581 Disk Boas in Chapter 12.

Chapter 14: DECOMPER

The Decomper is your connection to those Commodore users who do not have a copy of the Compression Kit (CKit). The Decomper is single file located on the CKit Program Diskette:

```
"decomper.mms"
```

The Decomper is like a miniature version of the CKit and it is freely distributable. You may distribute as many copies as you please. The only restrictions:

1. No fee may be charged for such copying and distribution.
2. The Decomper may only be distributed in its original, unmodified state.

The Decomper can decompress ANY archive or boa that was created with the CKit.

Features

- Commercial quality - Guaranteed to work
- User friendly - Menu driven
- Written in 100% machine language
- LOAD's and RUN's just like a BASIC program
- Includes fast drive routines for Commodore 1541/1571/1581 drives

The Decomper offers your user group or bulletin board system (BBS) a professional front end unsurpassed in the Commodore world for quality, power, and ease of use. Mad Man Software encourages you to use the CKit extensively, in your products, distribution disks, and BBS's.

If you have any ideas on how we can serve you better, please contact us. But be careful of what you ask for. You might just get it.

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Chapter 15: TROUBLE SHOOTING

Bad Sectors

There are times when the Compression Kit's (CKit) drive routines will have trouble reading or writing a certain sector. The causes could be:

- Disk is not in drive
- Write protect tab is ON (for sector writes)
- Drive door is open
- Disk is physically damaged
- Sector is corrupted
- Sector is illegal (out of range)
- Drive head is dirty
- Drive is out of alignment

As long as the sector is not illegal, try using the following process to recover a bad sector:

BAD SECTOR RECOVERY PROCESS

1. Remove disk from the drive (skip this step on CMD Hard Drives).
2. Turn the drive off.
3. Wait five seconds or so.
4. Turn the drive back on.
5. Place the disk back into the drive (skip this step on CMD Hard Drives).
6. Use the try again option.

The above process works quite well for recovering sketchy sectors, but you should not rely upon it. You can not use this process on CMD RAMLinks and PPI RAMDrives.

Unresponsive Drives

If a disk drive seems to lockup on a job AND the drive's activity light is still on try this:

UNRESPONSIVE DRIVE RECOVERY PROCESS

1. Pull the disk completely out of the drive.
2. Wait a second or two.
3. Place the disk back into the drive.
4. When and if the bad sector message pops up, use the retry option.

This process works great on CMD Floppy Drives. This process can not be used on CMD RAMLinks, CMD Hard Drives, or PPI RAMDrives.

Fatal Errors

If the CKit runs into an error from which it can not recover, it will perform a cold start reset and place you in the Fatal Error screen. The most common causes of fatal errors are:

- Active drive is turned off (or not present)
- A serial cable is loose or defected
- Another device on the serial bus has the same device number
- A system serial bus communication error has occurred

If a fatal error occurs, follow the instructions on the screen, then press `[return]`. The CKit will return you to the Server.

Serial Bus Problems

If your drive light stays on, the drive just keeps spinning, or the job seems to be stuck; you have probably encountered a serial bus problem. The CKit uses fast serial bus communication and can be quite sensitive at times. Here is the procedure for dealing with a serial bus problem:

SERIAL BUS RECOVERY PROCESS

1. Try using the Unresponsive Drive Recovery Process FIRST.
2. Try to regain control of the CKit by using the cancel job key `[stop]`.
3. If `[stop]` does not work, try using the `[stop][restore]` key combination.
4. Whether you regain control of the CKit or not, reset the culprit drive.

If this process does not work, you should turn OFF all of the devices on the serial bus then turn them all back ON. This almost guarantees that you will regain control of the CKit. You should use this method as a last resort, since it usually will cause the CKit to invoke its Fatal Error routine.

Here are a few tips, to help you avoid serial bus problems:

1. Keep as many serial devices turned ON as possible (European PAL units especially).
2. Be sure that your serial bus cables are connected properly.
3. Avoid having extra devices on the serial bus (printers, interfaces, etc.).
4. Do not turn a serial device ON or OFF during disk access.

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Commodore 1581 Hardware Problems

There are a great number of Commodore 1581's out there that are plagued with some hardware bugs that can really confuse your system. Some typical symptoms are:

- Serial bus locks up when the 1581 is turned off
- Random device not present errors
- Unusually high occurrence of data corruption

If you are experiencing any of the above problems, have your 1581 checked and/or repaired. Until then, here are a few tips that may help you bypass some of those problems:

1. Always leave the 1581 powered ON.
2. Make sure that there is no disk in your 1581 before turning the drive ON.
3. Avoid turning other serial devices ON and OFF.
4. Disconnect all of the unused serial devices from the serial bus (printers, interfaces, etc.).
5. When all else fails, unplug the 1581 from the serial bus.

It is important to remember that these tips will not solve your problems. Only a sound Commodore 1581 will.

Intermittent Or Quirky Operation (RAM Devices)

The CKit assumes that you have a properly installed and stable RAM device setup. If you do not, the CKit will act strangely each time it tries to access the faulty RAM device (system lockups, READY screens, cold start resets, etc.). The best way to insure that the CKit will work properly with your setup is through the use of the RAMTest utility located in the Settings menu. If your setup can pass the RAMTest utility consistently over long periods of time, you should never experience any of these problems.

Job Lockup (Security Key)

If the computer just locks up in the middle of a job, chances are that the computer is not responding to the Security Key correctly. The causes could be:

- Security Key is not plugged into joystick port #1
- Security Key is not securely set in the joystick port
- The joystick port is damaged
- Computer has a defective CIA chip (6526)
- Computer has a defective SID chip (6581)

Most of the time, this problem occurs when you forget to plug in the Security Key and happen to have a mouse in one of the joystick ports. If the computer has a defective CIA chip, the keyboard should also act strangely. If the computer has a defective SID chip, you may notice irregular sounds when using programs which play music. In any case, the best way to identify whether your computer is defective or not is to try using the CKit on a different computer. If it works, you know that the problem lies with the computer (not the CKit). Should you not be able to correct the problem, please contact Mad Man Software.

Cold Start Reset

If for some reason the CKit should lockup and every means of recovery that you try fails, you have one last option:

`[stop][restore]`

Hold down the `[stop]` key and tap `[restore]` until the CKit begins its Systems Check. This key combination cold starts the CKit, as if you just booted it. You should only use this command as a last resort.

NOTE: If this command does not work, then the serial bus is probably locked up (please see Serial Bus Problems above).

Job Errors

ERROR:Can't read Track <t> Sector <s> **Try Again (y/n)?**
The CKit can not read track <t> sector <s>. This error will occur if the drive is having trouble reading a certain sector. This error will also occur if the track or sector is out of range (usually caused by corrupted files).
ERROR:Can't write Track <t> Sector <s> **Try Again (y/n)?**
The CKit can not write track <t> sector <s>. This error will occur if the drive encounters a problem while writing a certain sector. Write protect tabs and physically damaged sectors are the main cause of this error. This error will also occur if the track or sector is out of range.

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ERROR:Track <t> is corrupted Continue Job (y/n)?
The Destination drive did not copy the track correctly. This error is often caused by faulty disks and badly aligned drives. If you encounter this error, Mad Man Software recommends that you start the job over and use a different Destination disk (if possible).
ERROR:Track <t> in boa is corrupted Continue Job (y/n)?
The data for track <t> in the boa data file is corrupted. This is usually caused by a corrupted boa data file (not the Destination drive).
ERROR:Track <t> in boa is severely corrupted [return]
The data for track <t> in the boa data file is severely corrupted. This is usually caused by a corrupted boa data file (not the Destination drive) AND it is non-recoverable.
<filename>:Bad File [return]
The Destination drive did not copy the file correctly. This error is most commonly seen on drives with bad alignment. This error will also occur on CMD RAMLinks and PPI RAMDrives which are having timing problems (usually due to improper installation).
<filename>:File is corrupted [return]
The file is corrupted. This error indicates that the decompression of the file failed. This is usually caused by a corrupted archive data file (not the Destination drive).
ERROR:Verify failed [return]
The Destination drive did not create the archive or boa file(s) correctly. This error is most commonly seen on drives with bad alignment. This error will also occur on CMD RAMLinks and PPI RAMDrives which are having timing problems (usually due to improper installation). If you encounter this error, Mad Man Software recommends that you start the job over.
ERROR:Archive header is corrupted [return]
The information at the beginning of the first archive file is corrupted. This error should only occur on badly corrupted files. Accordingly, this error occurs on files that were not compressed using the CKit.

ERROR:Archive is corrupted [return]
Indicates that the archive header does not match the archive data. This occurs when the CKit does not decompress all of the files that it believes is in the archive. This error is quite rare and should only appear on badly corrupted data files.
ERROR:Boa header is corrupted [return]
The information at the beginning of the first boa file is corrupted. This error should only occur on badly corrupted files. Accordingly, this error occurs on files which were not compressed using the CKit.
ERROR:File exists [return]
There is another archive or boa file on the Destination drive with the same filename. Solution - Use a different filename for the archive or boa OR delete the old file(s).
ERROR:File not found [return]
The CKit can not find an archive or boa data file. This error usually occurs when you accidently place the wrong Source or Destination disk in the drive.
ERROR:Data file missing [return]
The CKit can not find an archive or boa data file. This error usually occurs on CMD RAMLinks, PPI RAMDrives, and CMD Hard Drives which are missing data files. This error is often caused by forgetting to copy all of the necessary data files to the Source.
ERROR:Archive requires more than 27 data files [return]
This error occurs if the archive becomes to large. For this error to occur, a limit must be selected and the archive must be larger than 2,700 blocks. Should you encounter this error, try using a higher limit. In most cases this will solve the problem.
ERROR:Job to large for available RAM [return]
This error occurs if you attempt to archive a large number of files without any sort of RAM device present on the system. Solution - Enable one of your RAM devices (using the Settings option in the Server) or break the archive job up into smaller jobs.

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ERROR:Buffer corruption detected [return]
The utility has detected corrupted data within the present RAM setup. This error will occur on any RAM setup (selected in the Settings menu) which can not pass the RAMTest diagnostic utility on a consistent basis. This error is usually caused by improper installation of C128 64K VDC RAM, CMD RAMLinks, and PPI RAMDrives; and expanded 17XX REU's which drain to much power from the computer.
ERROR:Archive requires a different version than v2.0 [return]
The archive you have selected must be decompressed with a different version of the CKit. Please contact Mad Man Software for CKit upgrade information.
ERROR:Boa requires a different version than v2.0 [return]
The boa you have selected must be decompressed with a different version of the CKit. Please contact Mad Man Software for CKit upgrade information.

Chapter 16: NOTES

Compression

There are a few things to keep in mind when you use the Compression Kit (CKit) for compressing files, disks, and partitions:

Compressed Files Are Not Executable

You can not 'RUN' CKit data files. You must first decompress the CKit data files, in order to return the data back into its original format.

Compression Techniques

There are several different methods for compressing data. For maximum data compression, pure statistical compression is the best method; where a program analyzes the data, selects a compression scheme that best fits the data, then re-reads the data applying the selected compression scheme to it. This method requires two passes of the source data (popular public domain compression programs such as ARC and Super Crunch use this method). A comparable method, adaptive statistical compression, requires only one pass; it analyzes the data during compression and adjusts the compression scheme on the fly (this same method is used by high performance modems). Although pure statistical compression offers the best compression ratio (especially for smaller files), adaptive statistical compression offers superior speed with comparable performance. Since the CKit is designed to be a backup utility with reasonable speed, Mad Man Software chose to use the latter, adaptive statistical compression.

Compressing Files

Due to the nature of the CKit's compression scheme, the compression of a file improves after each byte it compresses. So large files benefit the most, and often see the best compression; in some cases even better than traditional statistical compression. Just remember, "the larger the file the better the compression."

Keep in mind that the compression performance will also vary between different file types. Large graphics and text files tend to see the best compression. Large BASIC programs also compress well. And machine language programs tend to compress the least of all the file types.

With some practice, you will develop a feel for the compression that you can expect from different file sizes and types.

Avoid Compressing Dirty Disks Or Partitions

If you have a disk or partition that at one time or another had less blocks free than it has now, then some of that data is still sitting out there on your disk or partition. Since the Boas compress everything, they will compress that extra data as well. This will cause the compressed files to be larger than they need to be. Your solution: Use the Archiver whenever possible, or copy the data to a newly formatted disk or a zeroed out partition (using the Filemaster) before using a Boa.

Compressed Files Will Not Compress

Once you compress data, do not try to compress the data again. Although the CKit will try to compress the data again, no compression will actually take place.

Telecommunications Use

No other Commodore utility, commercial or in the public domain, offers the reliability of the CKit. The CKit offers a compression standard that is guaranteed to work. When you successfully complete an archive or boa job with verify, you can rest assured that any Commodore user can decompress it.

With the newly designed Dissolver and Decomper utilities, user groups and bulletin board operators can offer their members unparalleled Commodore support; allowing them to decompress archives, 1541 disks, 1571 disks, 1581 disks, and even CMD Native partitions with ease. With the freely distributable Decomper, your users will be downloading files from your system like it's their job! No longer will you have to waste time explaining how to decompress archives and the like (one program does it all - the Decomper). Let's not forget the Dissolver. The Dissolver converts CKit archives into self-dissolving-archives (MAD files). All the user has to do to decompress one is LOAD it and RUN it; just like a BASIC program. Even better, creating MAD files has never been simpler. Just select the archives that you wish to convert and BAMPH! You're done. The Dissolver even has a verify option to insure proper creation.

Why are these utilities so great? Because you designed them. You told Mad Man Software what you wanted and guess what? You got it. So use it. And help us out by telling your fellow users about it.

Tips

Use The Archiver Whenever Possible

The Archiver compresses the files that you select and nothing else. The Boas compress every single sector on the disk or partition. So try to use the Archiver for most of your backups. Another advantage of using the Archiver, is that you can examine the data within your backups without having to decompress them first (with the Examine Arc option).

Format Disks Outside Of The CKit

Some of the Commodore drives do not support standard DOS error handling when executing the format command. This can cause strange error messages and fatal errors within the CKit. To be safe, do your formatting outside of the CKit in BASIC. You can always return to the CKit by using the SYS4 safety feature.

Always Use The Verify Option

Every utility in the CKit contains a verify option. The verify option defaults to ON for good reason. This feature guarantees the integrity of your backups. The verify feature is extremely important when copying or decompressing disks. Turning the verify feature OFF will speed up the backup process but MAD MAN SOFTWARE MAKES NO GUARANTEES ON THE INTEGRITY OF YOUR BACKUPS.

Getting Maximum Performance

The CKit is designed to support almost every hardware setup possible for the Commodore 64 and 128. In order to maintain this high degree of flexibility, the CKit makes heavy use of stock DOS routines. Often times the stock DOS routines on the Commodore drives can be quite slow. For the fastest operation possible Mad Man Software recommends that you upgrade your computer with CMD's JiffyDOS. JiffyDOS is a ROM upgrade for your computer and disk drives. The speed increase with this upgrade alone can be up to %1500 (15 times faster). If you use your disk drives for more than games, you should seriously consider upgrading.

NOTE: The CMD RAMLink and PPI RAMDrive have JiffyDOS built in. Keep this in mind if you plan on upgrading soon.

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